IN THE CLAIMS

Please cancel Claims 1-9 without prejudice.

Claims 1-9 (cancelled).

10. (original) A method for label-free detection of an analyte (56) in a sample liquid (55), the method comprising:

- exposing at least one conductive surface (51a, 51b) with at least one target-specific affinity probe (52) immobilized thereon to a sample liquid (55) to allow association between said analyte (56) in said sample liquid (55) and at least one target-specific affinity probe (52),

- assaying said at least one conductive surface (51a,51b) for the presence of the associated analyte (56), said assaying comprising:

- applying an alternating electrical field between a first of at least one conductive surface (51a) and a second conductive surface (51b) thus generating a first alternating current flowing between said first (51a) and said second conductive surface (51b), the applied electrical field having a frequency between 10^{-2} and 10^{6} Hz,

- measuring an electrical property of said first alternating current,

- comparing, sequentially or simultaneously during any of the preceding steps the measured electrical property of said first alternating current with an electrical property of a reference signal, thus generating a comparison result,
- determining from the comparison result whether analyte (56) has associated with at least one of the target-specific affinity probes (52).

11. (original) A method according to claim 10, wherein the comparing step includes comparing

amplitude and phase of said first alternating current with amplitude and phase of the reference signal.

12. (previously presented) A method according to claim 10, wherein the electrical field has a frequency between 10^{-2} and 10^{2} Hz.

13. (previously presented) A method according to claim 10, wherein said second conductive surface (51b) comprises the same target-specific affinity probes (52) as the first conductive surface (51a).

14. (previously presented) A method according to claim 10, wherein said reference signal is a calibration signal

independently obtained using a conductive surface similar to said at least one conductive surface (51a, 51b) without incubation of an analyte (56).

15. (previously presented) A method according to claim 10, the method furthermore comprising assaying said at least one conductive surface (51a, 51b) at which at least one target-specific affinity probe (52) is immobilized before exposing to the liquid sample (55), resulting in second alternating current.

16. (original) A method according to claim 15, wherein said reference signal is said second alternating current.

17. (previously presented) A method according to claim 10, furthermore comprising removing the sample liquid (55).

18. (previously presented) A method according to claim 10, furthermore comprising rinsing the conductive surface (51a, 51b) with a washing solution to remove material that is non-specifically bound to an immobilized target-specific affinity probe (52).

19. (previously presented) A method according to claim 10, furthermore comprising rinsing the conductive surface (51a, 51b)

to replace the sample liquid (55) or the washing solution with a measurement solution.

20. (previously presentpreed) A method according to claim 10, wherein applying an electrical field between the first conductive surface (51a) with at least one immobilized target-specific affinity probe (52) and the second conductive surface (51a, 51b) and measuring amplitude and phase of a first alternating current are repeated while varying the frequency of the alternating electrical field in order to obtain a dielectric spectrum.

21. (original) A method according to claim 20, furthermore comprising varying temperature and/or composition of the washing or measurement solution.

22. (previously presented) A method according to claim 10, wherein the reference signal is a set of measurements or frequency spectra.